



# MISSOURI STUDENT SURVEY

Risk and Protective Factor  
Annual Comparisons  
2016-2022



# INTRODUCTION

In the beginning of 2022, the Missouri Department of Mental Health (DMH) and Department of Elementary and Secondary Education (DESE) conducted the Missouri Student Survey to determine the extent and nature of substance use among students in grades 6-12 in Missouri. In the fall of 2022, the Missouri Student Survey Report was published. Measurements on variables such as past month substance and mental health challenges were discussed.

This report is to serve as an addendum to the 2022 Missouri Student Survey Report and displays how protective and risk factor variables developed over time. Some of the graphs in this report show no significant upwards or downwards trend while others show clear patterns of inclines or declines. All comparisons across years were statistically tested ( $p > 0.001$ ). On the graphs, shapes of the points differ based on whether it is statistically different from other points. For example, two square points indicate no statistical difference, but a square and a circle point indicate statistical difference between the pair. Please refer to the appendix for an example on how to interpret the graphs.

Please note that the scale of the graph may vary in order to show changes clearly between years.

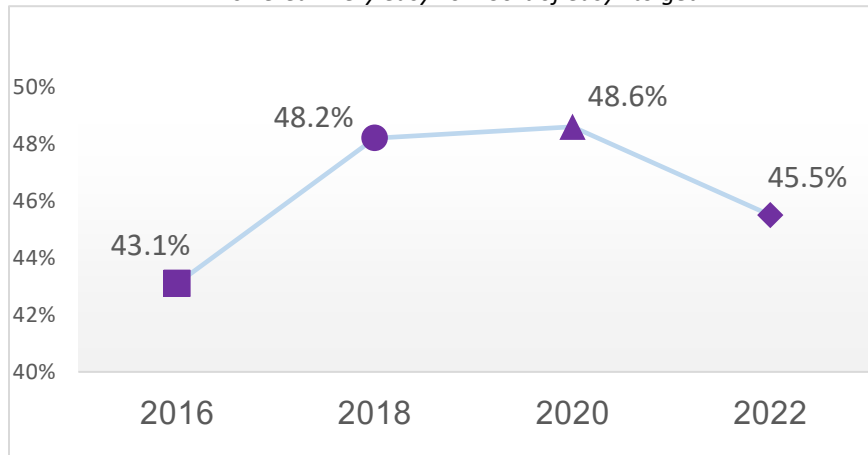


# E-CIGARETTES

■▲◆ Differences in shape indicate statistically significant differences between data points.

## Perceived E-Cigarette Availability

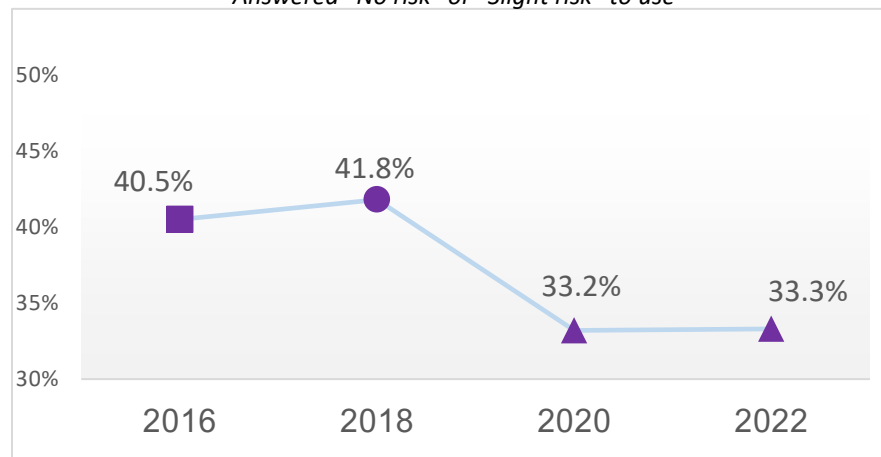
Answered "Very easy" or "Sort of easy" to get



While perception of availability rose in 2018 and 2020, the percentage of youth who said it would be "very easy" or "sort of easy" to get alcohol dropped in 2022 to 45.5%.

## Perceived Risk of E-Cigarettes

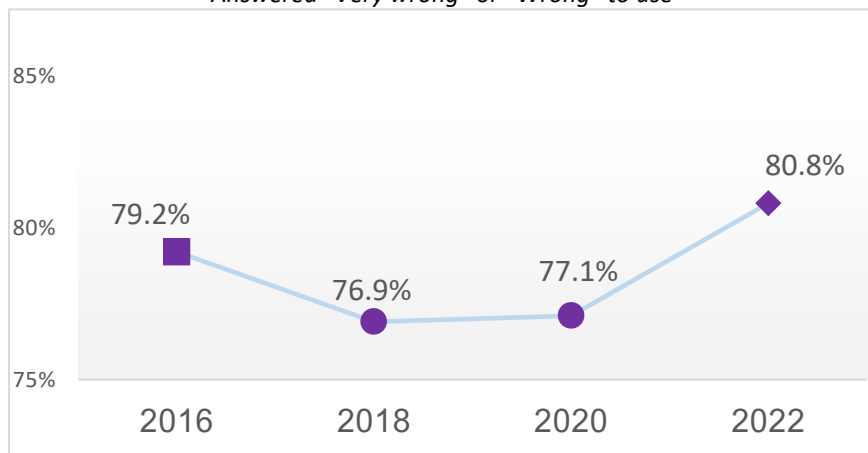
Answered "No risk" or "Slight risk" to use



The percentage of students who believed e-cigarettes presented "No risk at all" or "Slight risk" to use dropped to 33.2% in 2020. This percentage of students who agree remained statistically the similar in 2022 (33.3%).

## Perceived Wrongness of E-Cigarettes

Answered "Very wrong" or "Wrong" to use



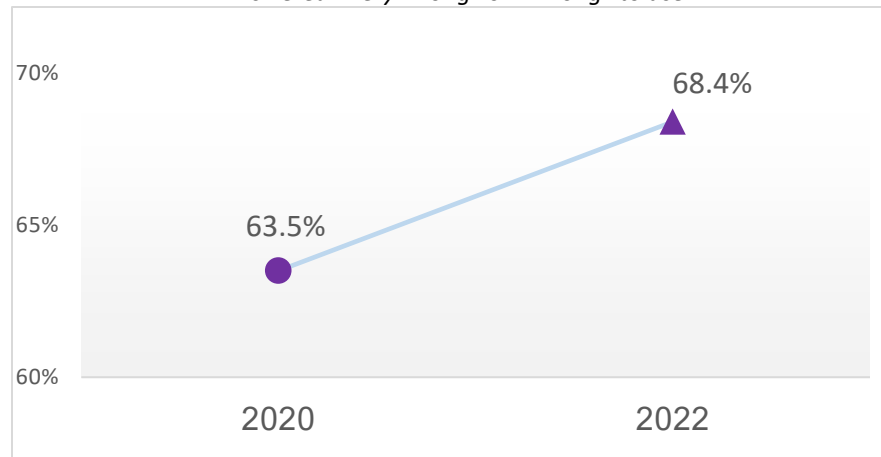
The percentage of students who believe it is "Very wrong" or "Wrong" to use e-cigarettes dropped in 2018. However, in 2022, the percentage rose to 80.8%.



### Perceived Peer Approval of E-Cigarettes

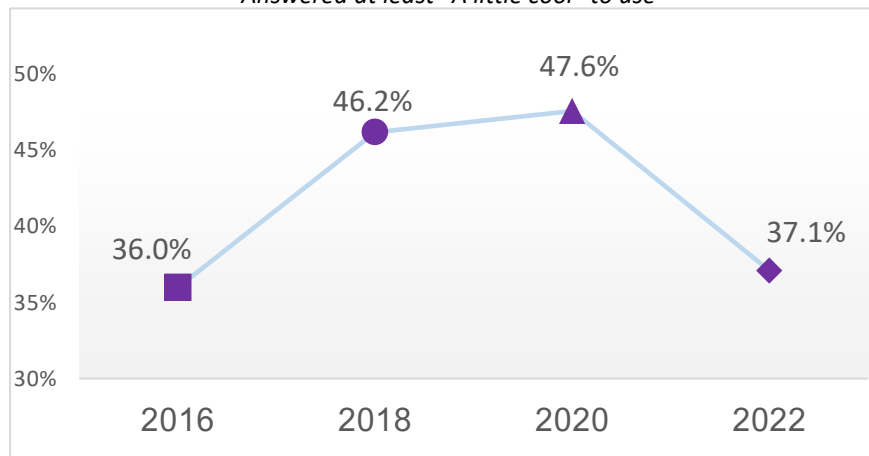
Answered "Very wrong" or "Wrong" to use

A higher proportion of students in 2022 believe their friends think it would be "Very wrong" or "Wrong" for them to use e-cigarettes.



### Perception of Coolness of E-Cigarettes

Answered at least "A little cool" to use



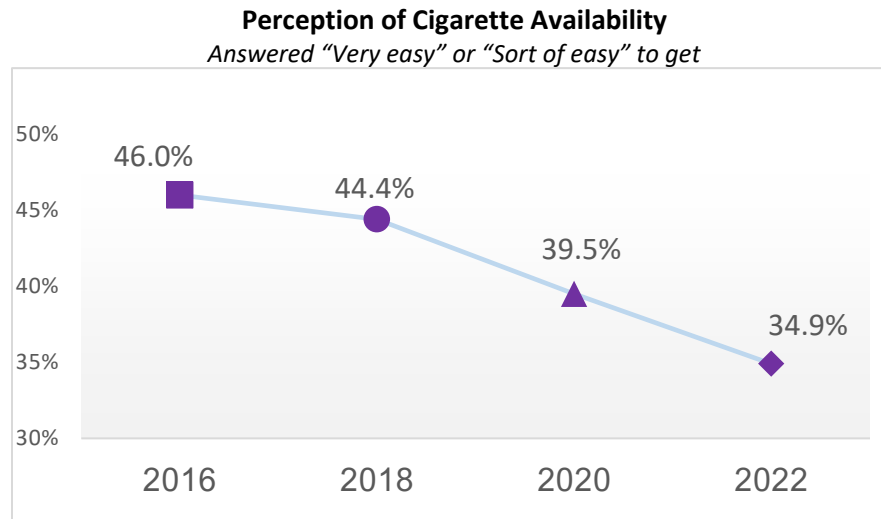
The percentage of students who answered that using e-cigarettes is at least "A little cool" rose in 2018 and again in 2020. However, in 2022, the percentage dropped by over 10%.



# CIGARETTES

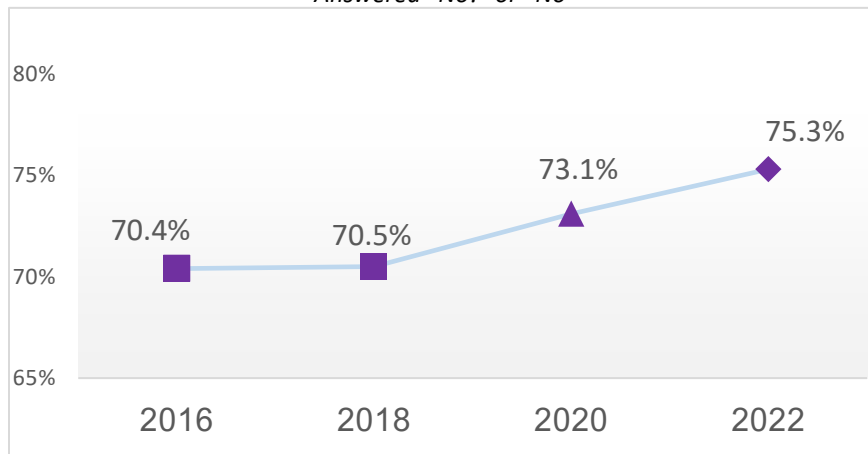
■▲●◆ Differences in shape indicate statistically significant differences between data points.

Since at least 2016, the percentage of students who believe it is “Very easy” or “Sort of easy” to get cigarettes have dropped each survey period.



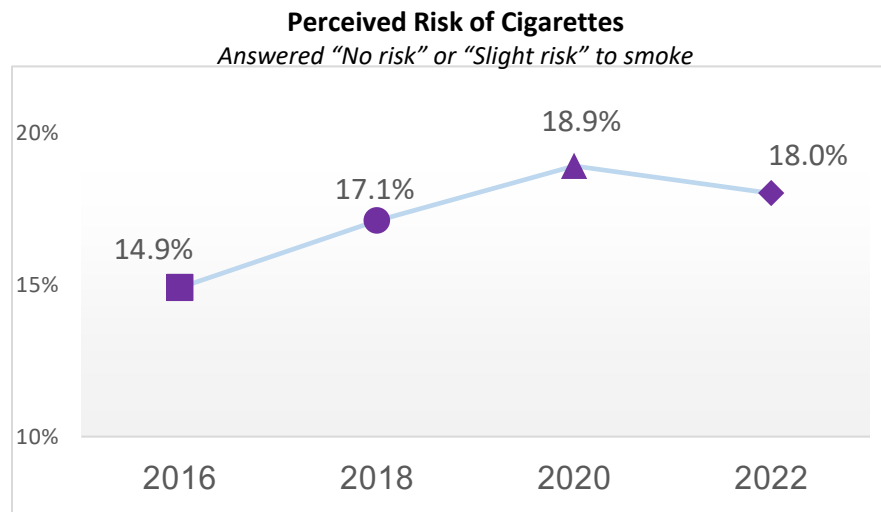
## Perception of Enforcement: Cigarettes

*Answered “No!” or “No”*



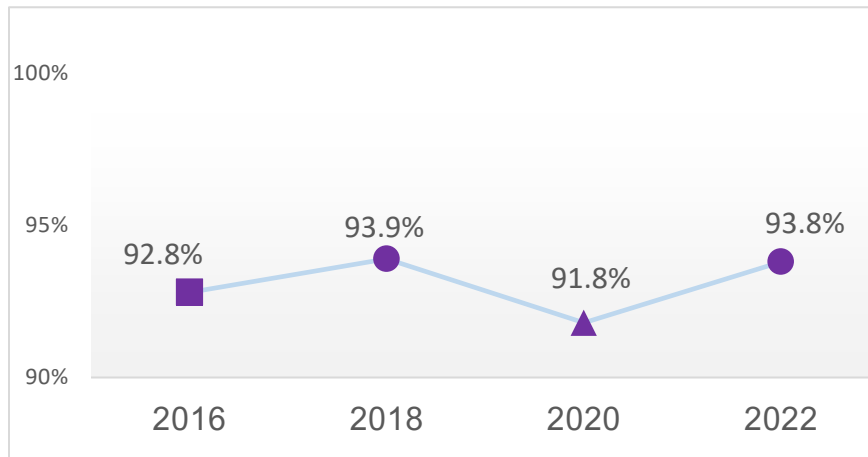
A larger proportion of students believed police would not catch an underage person smoking cigarettes rose each survey period since 2018.

Each measurement from 2016 to 2020 shows an increase in proportion of students who believe there is “No risk at all” or “Slight risk” to using cigarettes. In 2022, the percentage lowered to 18.0%.



### Perceived Parental Disapproval of Cigarettes

Answered "Very wrong" or "Wrong" to smoke

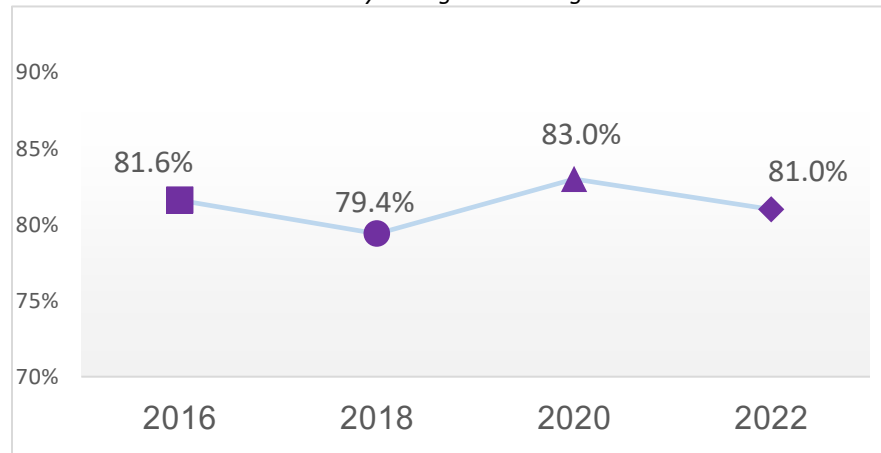


The percentage of students who believed their parents would find it wrong for them to use cigarettes fluctuated since 2016, rising in 2018, lowering in 2020, and rising back up in 2022. The percentages in 2018 and 2022 are statistically comparable.

### Perceived Peer Disapproval of Cigarettes

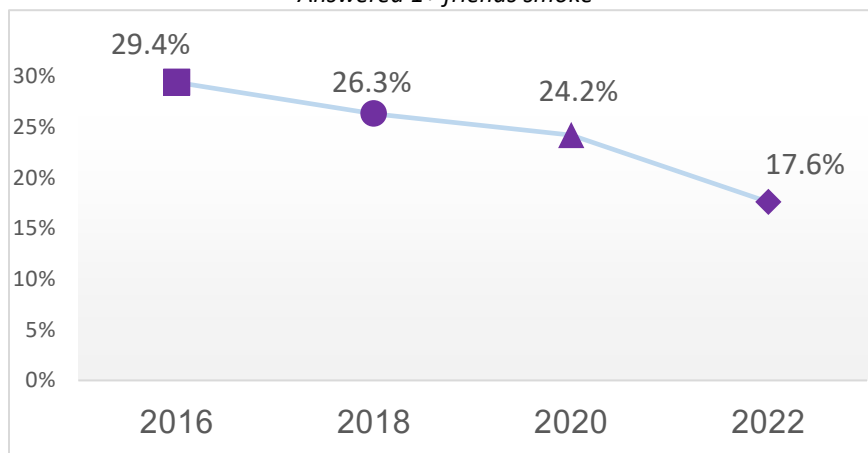
Answered "Very wrong" or "Wrong" to smoke

While lower percentage of students in 2022 believe that their friends would think it is wrong for them to use cigarettes than in 2020, there has been no consistent trend in the past six years.



### Friend Past Year Cigarette Use

Answered 1+ friends smoke

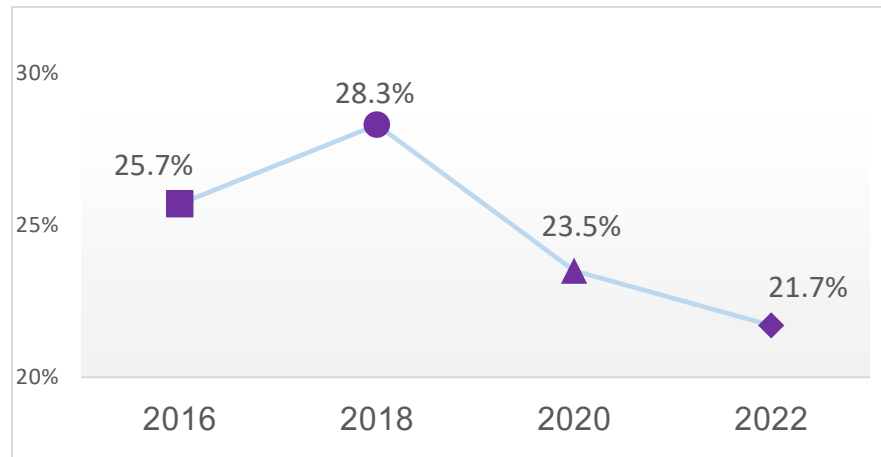


Each survey period showed a decrease in the percentage of students who report having one or more friends who smoke cigarettes.

### Perception of Coolness of Cigarette Use

*Answered at least "A little bit cool" to smoke*

Since 2018, the percentage of students who believed it is at least "A little cool to smoke" dropped to 21.7% in 2022.

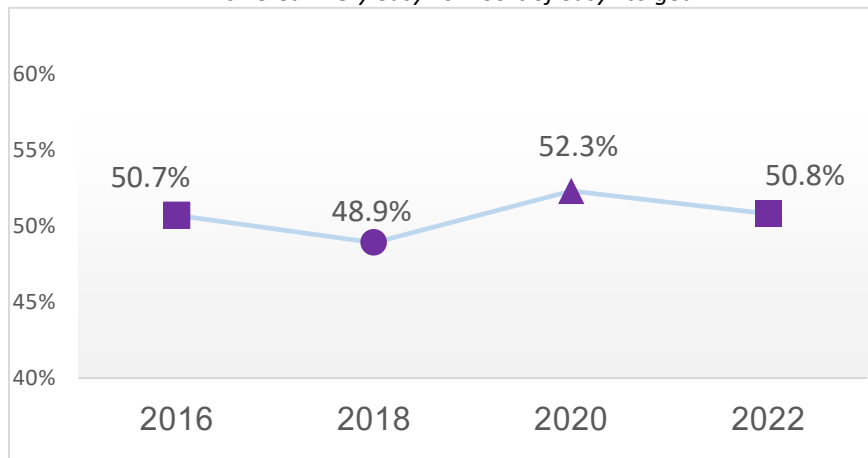


# ALCOHOL

■▲◆ Differences in shape indicate statistically significant differences between data points.

## Perception of Alcohol Availability

*Answered "Very easy" or "Sort of easy" to get*

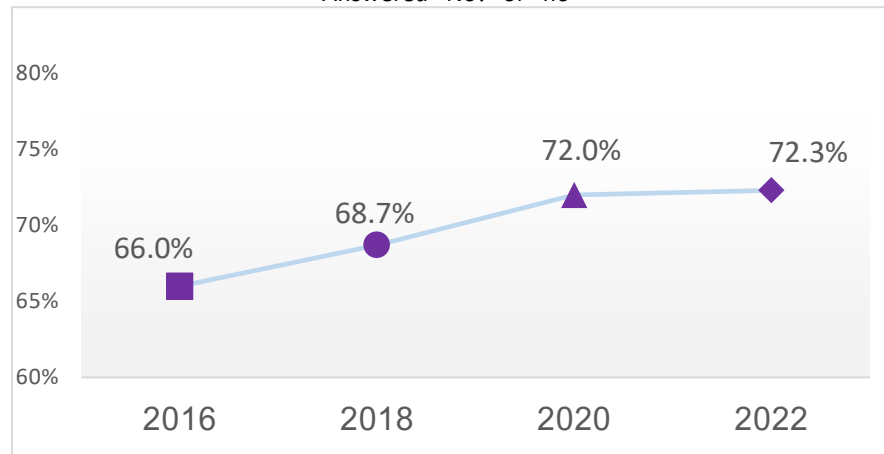


In 2022, the percentages of students who believe that it is easy to obtain alcohol dropped. However, the percentages in 2022 are statistically comparable to the percentage in 2016.

## Perception of Enforcement: Alcohol

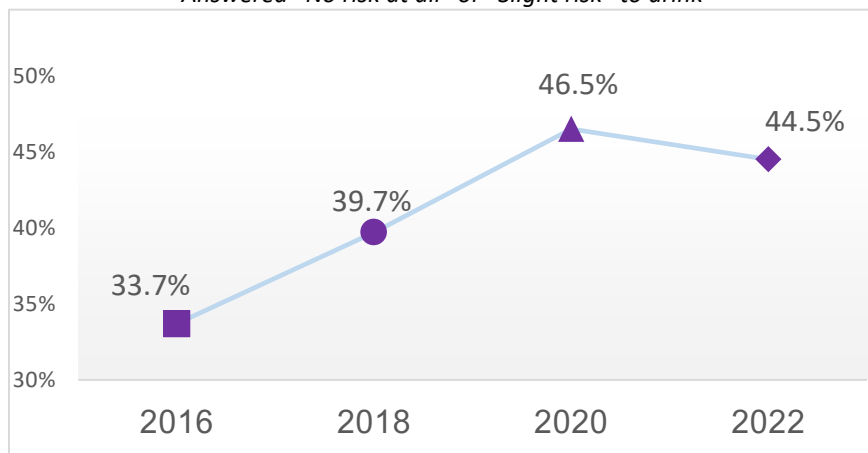
*Answered "No!" or "no"*

The percentage of students who believe that the police would not catch an underage youth drinking alcohol has increased over the past four survey periods.



## Perception of Risk of Alcohol (Any dose)

*Answered "No risk at all" or "Slight risk" to drink*



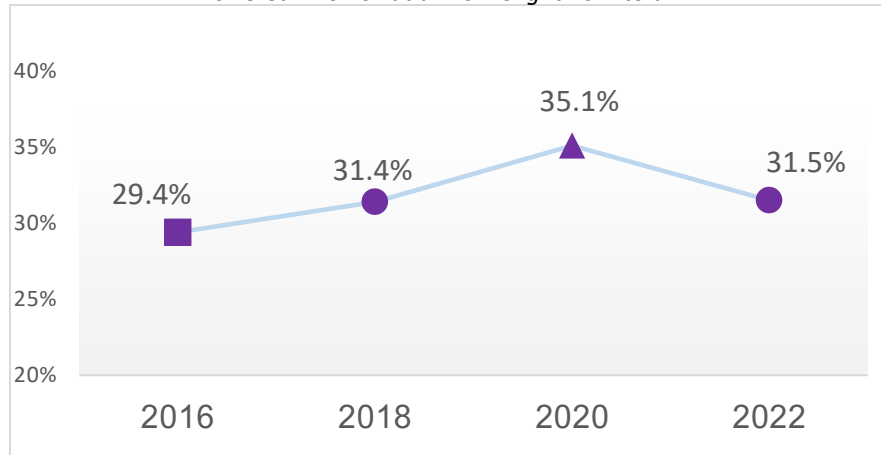
The percentage of youth who believed it presented "No risk at all" or "Slight risk" to drink alcohol has been rising since 2016. However, in 2022, the percentage dropped, breaking the trend of increases.



### Perception of Risk of Alcohol (1 or 2 drinks daily)

Answered "No risk at all" or "Slight risk" to drink

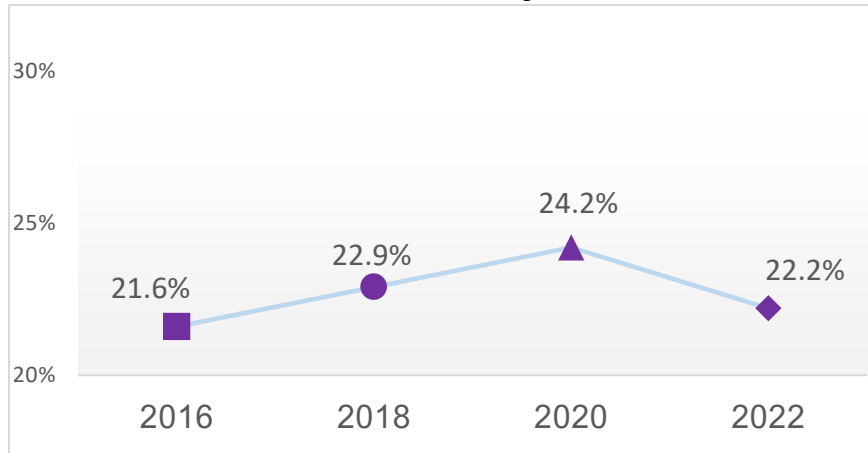
The percentage of youth who believed it presented "No risk at all" or "Slight risk" to drink alcohol daily rose since 2016. In 2022, the percentage dropped to a number similar to in 2018.



### Perception of Risk of Alcohol (5+ drinks once or twice a week)

Answered "No risk at all" or "Slight risk" to drink

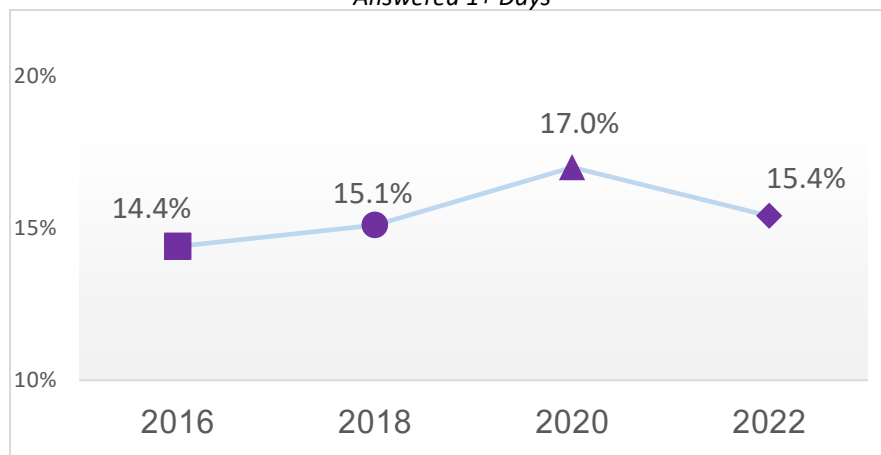
The percentage of youth who believed it presented "No risk at all" or "Slight risk" to binge drink once or twice a week dropped in 2022 after a consistent increase from 2016 to 2020.



### Rode with an intoxicated driver in past 30 days

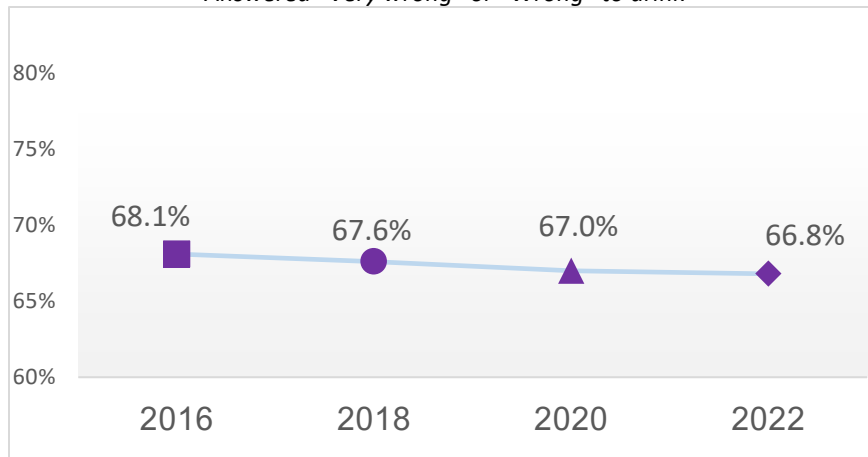
Answered 1+ Days

The percentage of students who rode with an intoxicated driver in the past month dropped in 2022 after a slow increase from 2016 to 2020.



### Perceived Wrongness of Alcohol Use (Any dose)

Answered "Very wrong" or "Wrong" to drink

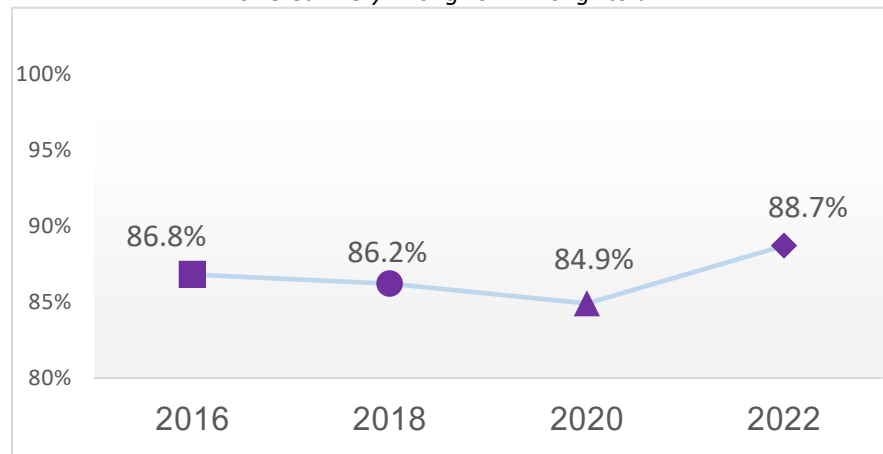


The percentage of students who believe that it is "Very wrong" or "Wrong" to use alcohol has been very slowly decreasing over time.

A higher percentage of students believe that it is "Very wrong" or "Wrong" to drink 1-2 alcoholic drinks daily than in 2020. Before 2022, the trend appeared to be declining.

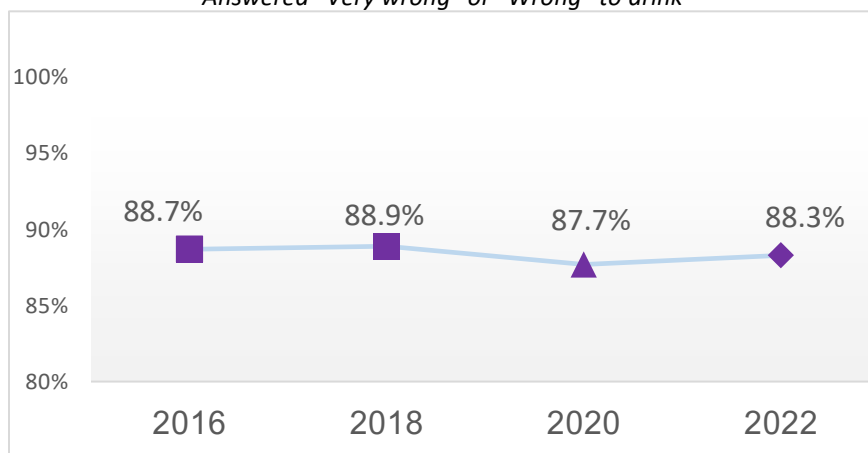
### Perceived Wrongness of Alcohol Use (1-2 drinks daily)

Answered "Very wrong" or "Wrong" to drink



### Perceived Wrongness of Alcohol Use (5+ drinks weekly)

Answered "Very wrong" or "Wrong" to drink

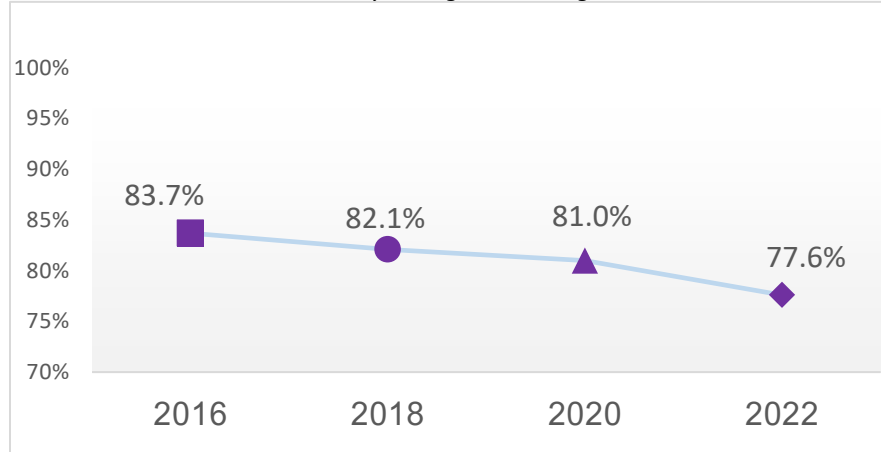


There was no discernible trend over the years of the percentage of youth who believed it is wrong to binge drink once or twice per week. In 2022, the percentage rose from 2020.

Since 2016, the percentage of students who thought their parents would find it “Very wrong” or “Wrong” for the student to use alcohol dropped steadily, decreasing by 6.1% in six years.

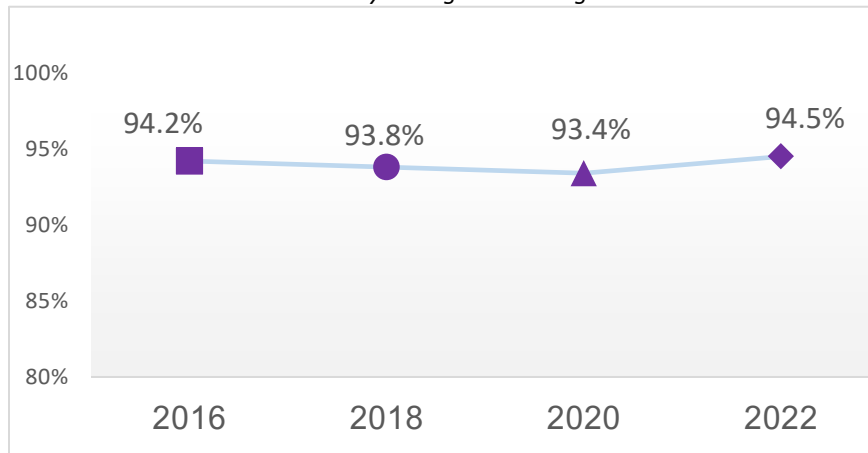
#### Perceived Parental Disapproval of Alcohol Use (Any dose)

Answered “Very wrong” or “Wrong” to drink



#### Perceived Parental Disapproval of Alcohol Use (1-2 drinks daily)

Answered “Very wrong” or “Wrong” to drink

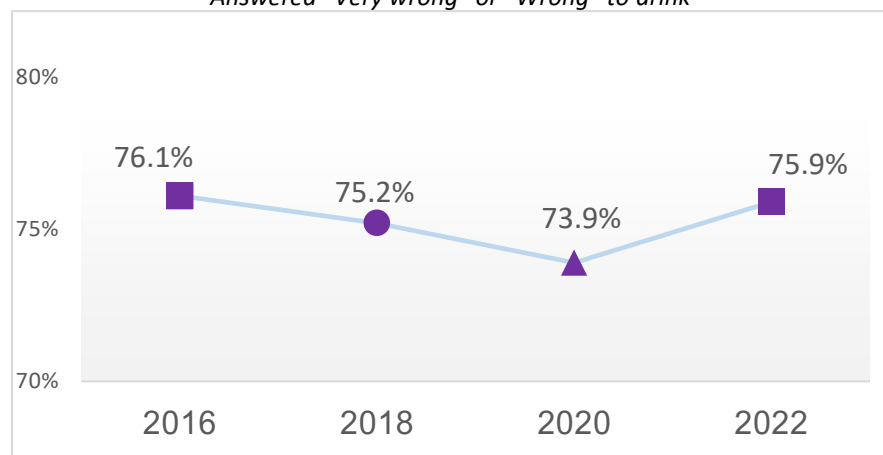


The percentage of students who believed their parents would find it wrong to drink one or two drinks per day has shown no clear trend. In the past six years, 2022 shows the highest percentage.

The percentages of those who believed their peers would find it “Very wrong” or “Wrong” for them to consume alcohol has dropped from 2016 to 2020. However, 2022 shows a deviation from the downward trend, showing a number similar to the percentage in 2016.

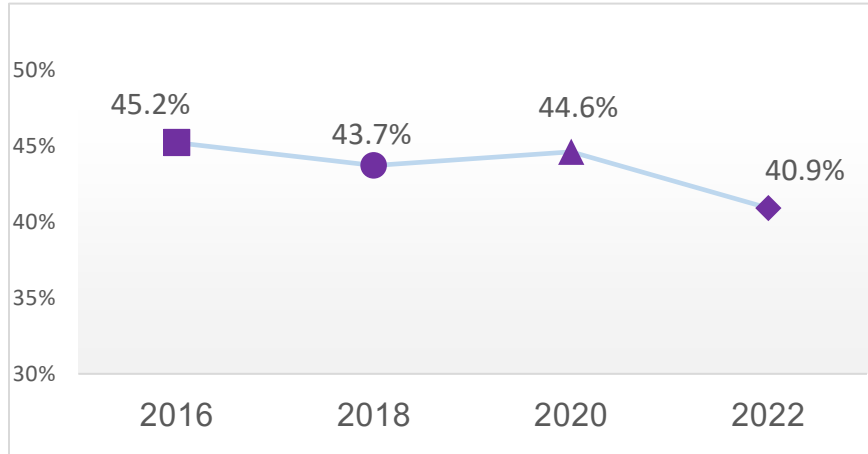
#### Perceived Peer Disapproval of Alcohol Use (1-2 drinks daily)

Answered “Very wrong” or “Wrong” to drink



### Friend Past Year Alcohol Use

*Answered 1+ friends drank*

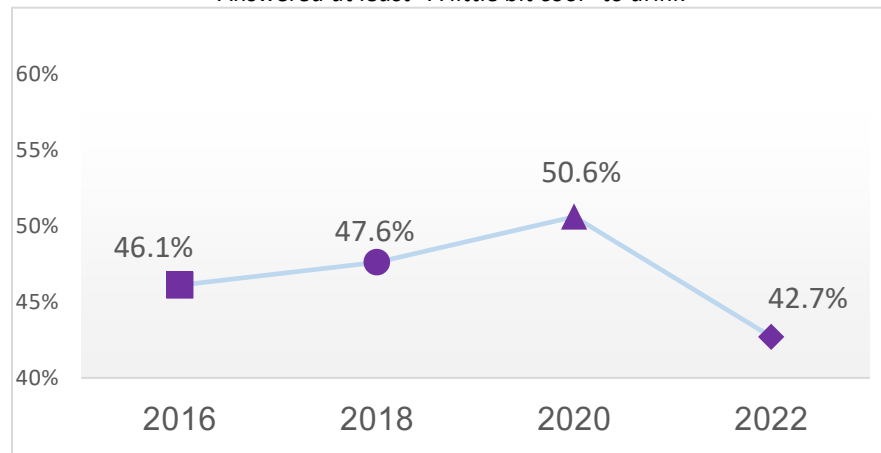


A lower percentage of students indicated that they have one or more friends who had a drink of alcohol in the past year than the last three survey cycles.

The percentage of students who found drinking at least "A little bit cool" dropped after a trend of increases between 2016 and 2020.

### Perceived Coolness of Alcohol Use

*Answered at least "A little bit cool" to drink*

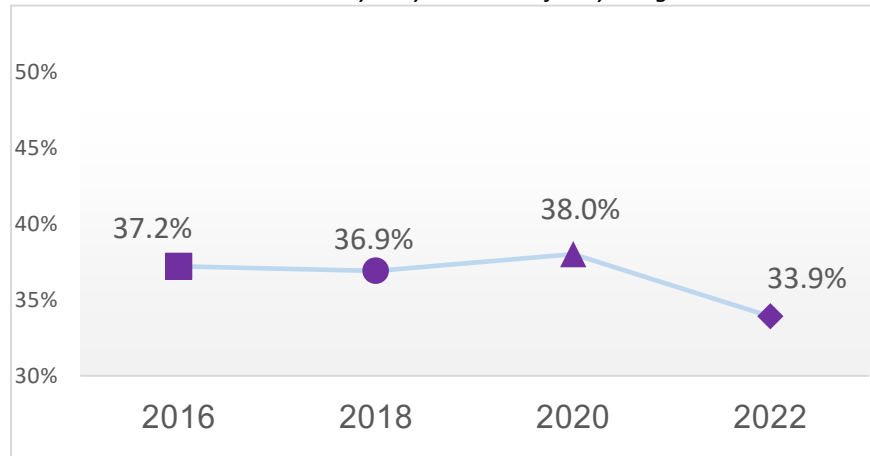




# MARIJUANA

■▲◆ Differences in shape indicate statistically significant differences between data points.

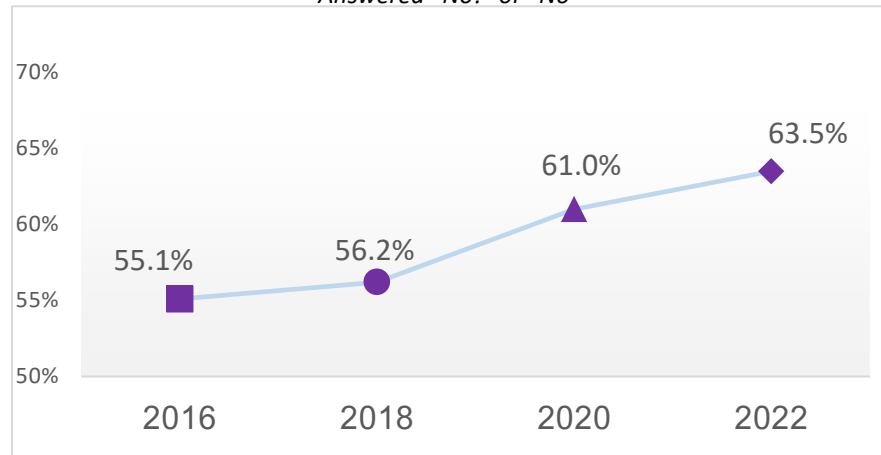
**Perceived Availability of Marijuana**  
*Answered "Very easy" or "Sort of easy" to get*



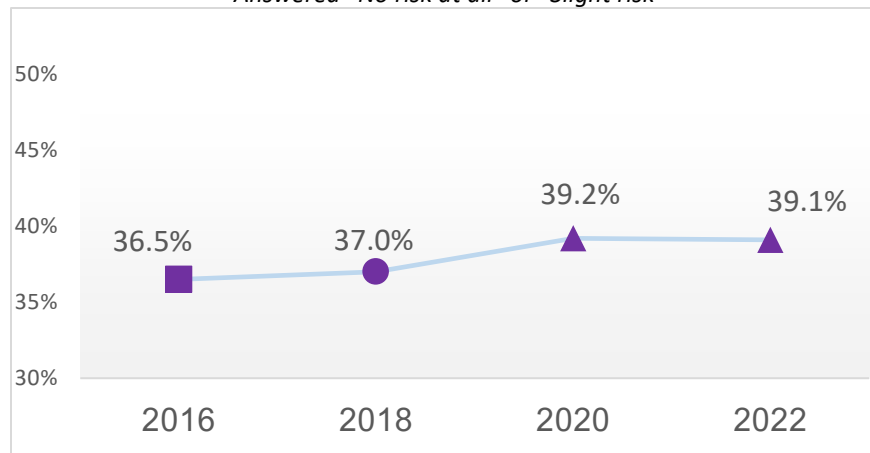
A lower percentage of students believed it was "Very easy" or "Sort of easy" to obtain marijuana in 2022 than in previous years.

**Perceived Enforcement of Marijuana Use**  
*Answered "No!" or "No"*

Since 2016, the percentage of youth who believe that the police will not catch a young person using marijuana has continued to increase.



**Perceived Risk of Marijuana Use**  
*Answered "No risk at all" or "Slight risk"*

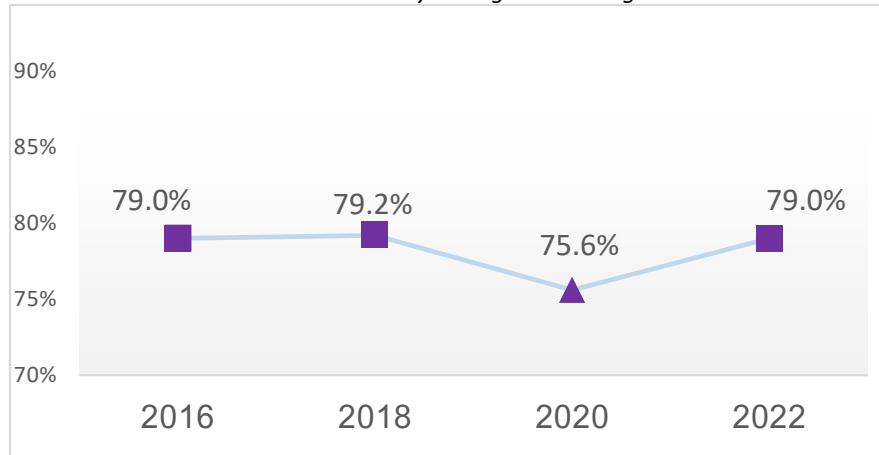


From 2016 to 2018, there was a slight increase in the percentage of students who believed it was not risky to use marijuana. From 2018 to 2020, it increased again before stagnating in 2020 and 2022.

### Perceived Wrongness of Marijuana Use

Answered "Very wrong" or "Wrong"

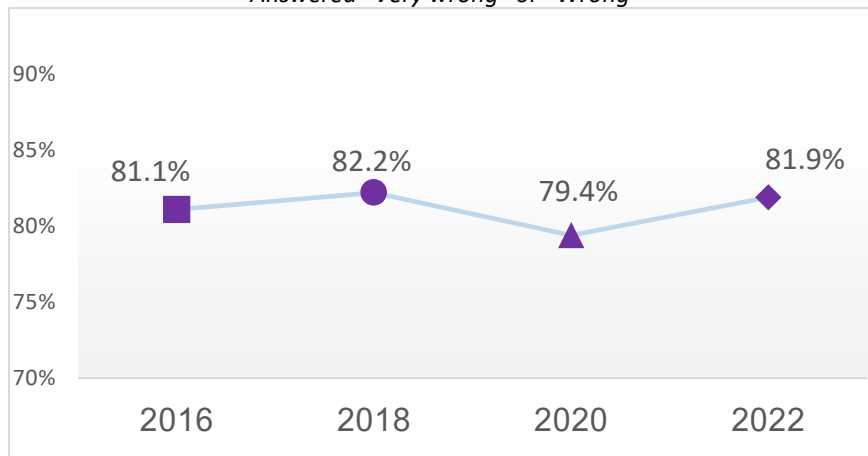
Aside from a dip in percentage of students who believe it to be wrong for them to use marijuana in 2020, the percentages remained relatively constant since 2016.



### Perceived Wrongness of Marijuana Use (1-2 times per week)

Answered "Very wrong" or "Wrong"

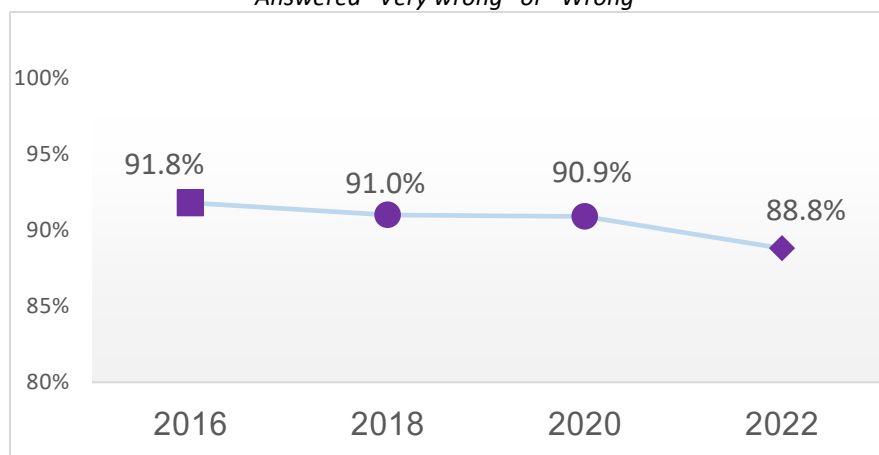
Aside from the drop in percentage in 2020, there has been no clear upward or downward trend in the percentage of students who believe it is wrong to use marijuana one or two times per week.



### Perceived Parental Disapproval of Marijuana Use

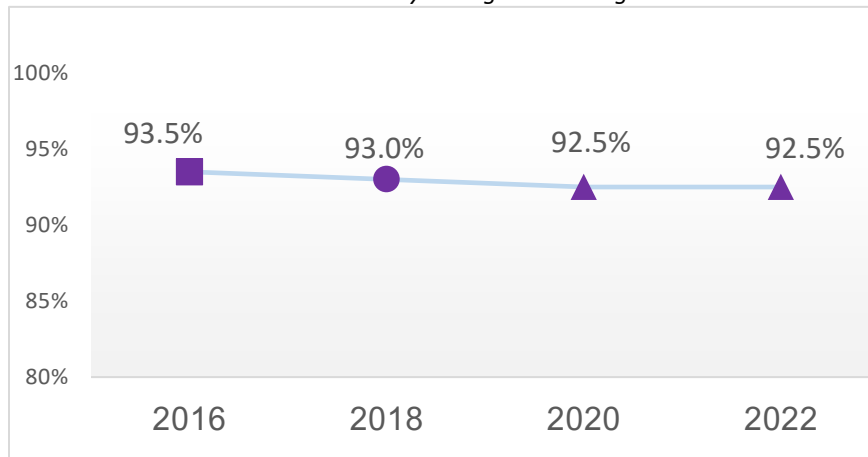
Answered "Very wrong" or "Wrong"

The percentage of students who believe that their parents would find it wrong for them to use marijuana has decreased since 2016.



### Perceived Parental Disapproval of Marijuana (1-2 times per week)

*Answered "Very wrong" or "Wrong"*

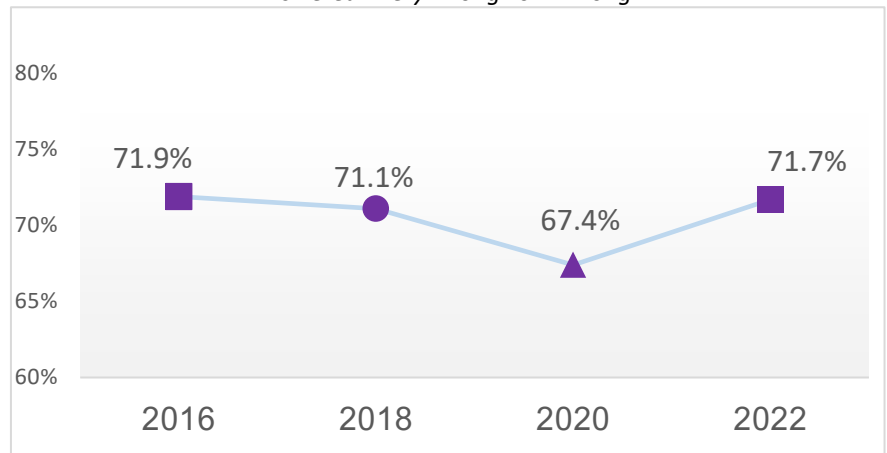


The percentage of youth who believe that their parents would find it wrong for them to use marijuana once or twice a week decreased from 2016 to 2020. The percentage in 2022 was similar to in 2020.

A similar percentage of students believed their friends would find it wrong for them to use marijuana in 2016 as in 2022. However, this is after years of decline in 2018 and 2020.

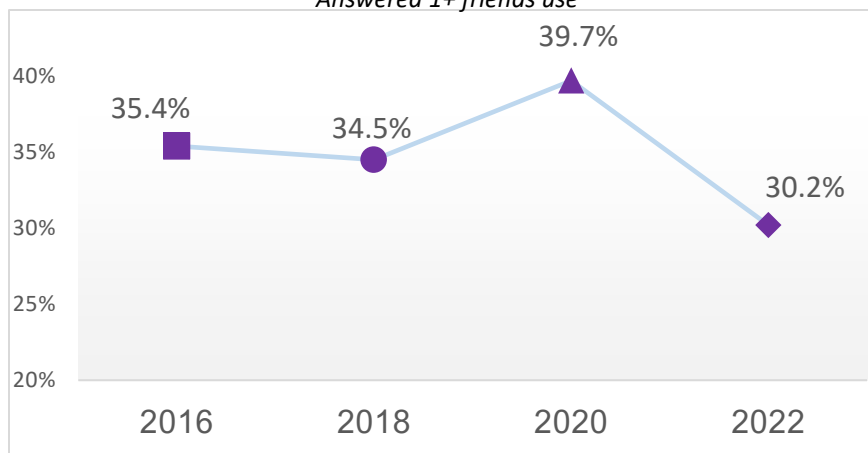
### Perceived Peer Disapproval of Marijuana Use

*Answered "Very wrong" or "Wrong"*



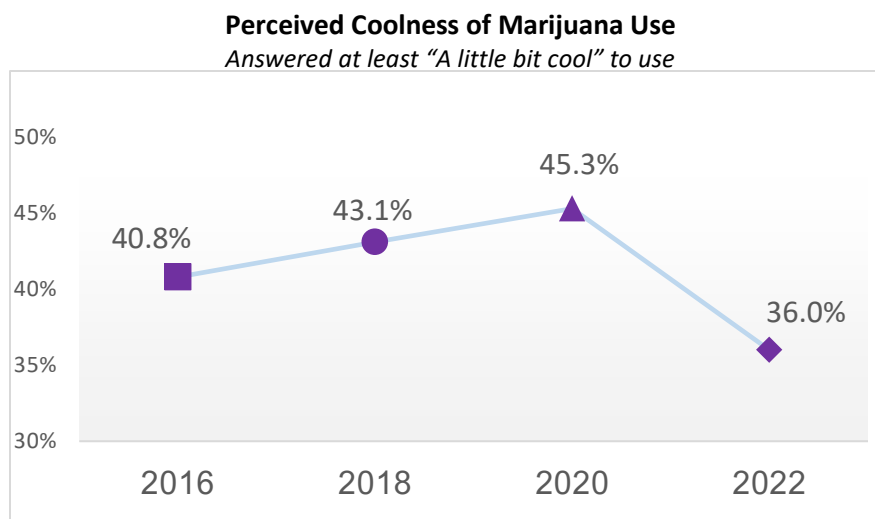
### Friend Past Year Marijuana Use

*Answered 1+ friends use*



In 2022, the proportion of students who reported having one or more friend who used marijuana in the past year dropped suddenly to 30.2% from 39.7% in 2020.

After a steady increase in the percentage of students who answered using marijuana is at least “A little bit cool” from 2016 to 2020, the percentage dropped suddenly to 36.0% in 2022.



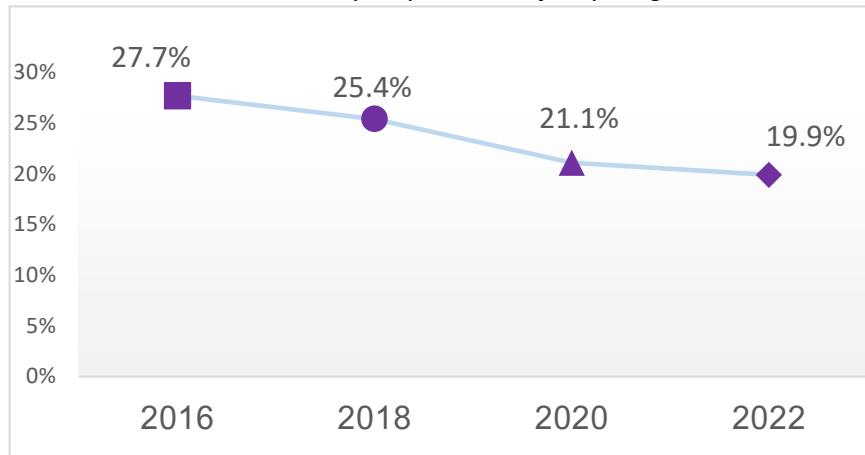


# PRESCRIPTION & OVER-THE-COUNTER

■▲◆ Differences in shape indicate statistically significant differences between data points.

## Perceived Availability of Prescription Drugs

*Answered "Very easy" or "Sort of easy" to get*

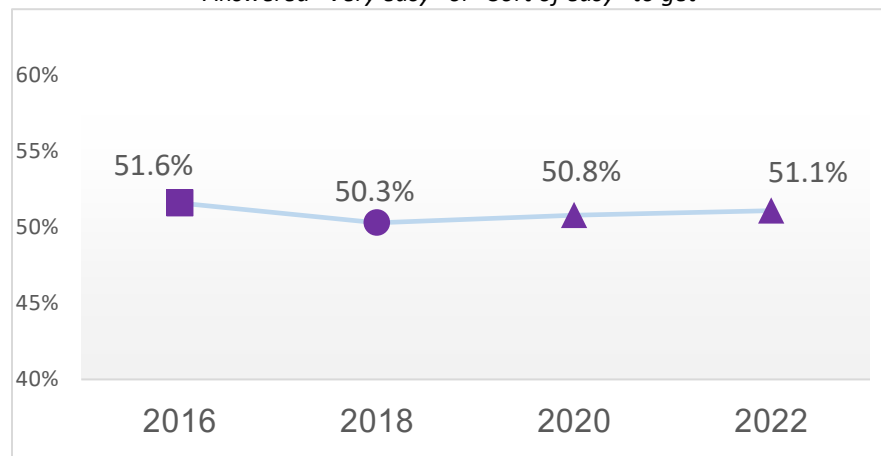


Since 2016, the percentage of students who report it to be "Very easy" or "Sort of easy" to access prescription medication not prescribed to them has been steadily dropping, decreasing a total of 7.8%.

## Perceived Availability of Over-The-Counter Drugs

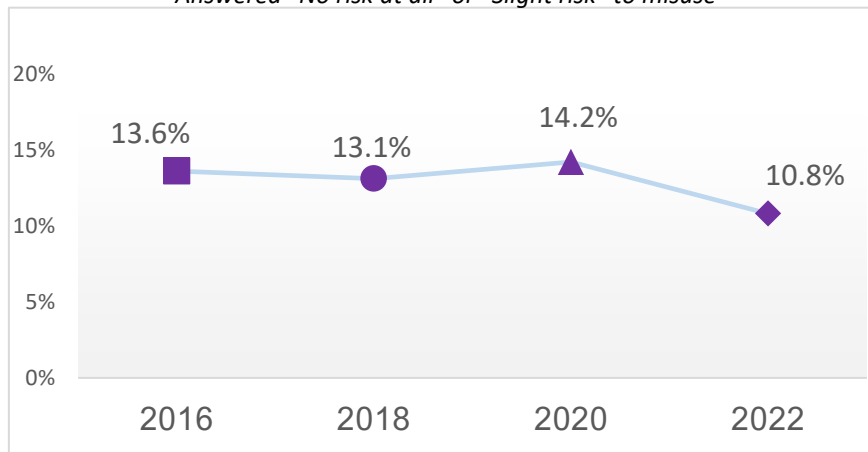
*Answered "Very easy" or "Sort of easy" to get*

Since 2016, there has been no clear trend on the rise and fall of the percentage of youth who believe it is "Very easy" or "Sort of easy" to access over-the-counter medication.



## Perceived Risk of Prescription Drugs

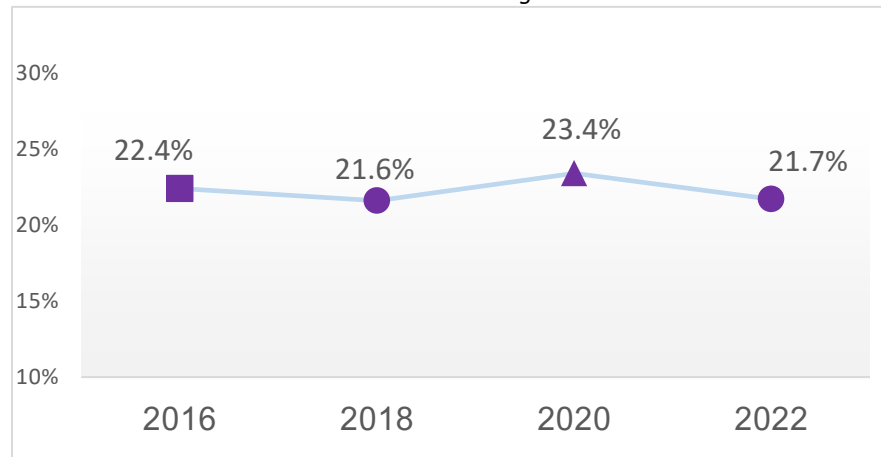
*Answered "No risk at all" or "Slight risk" to misuse*



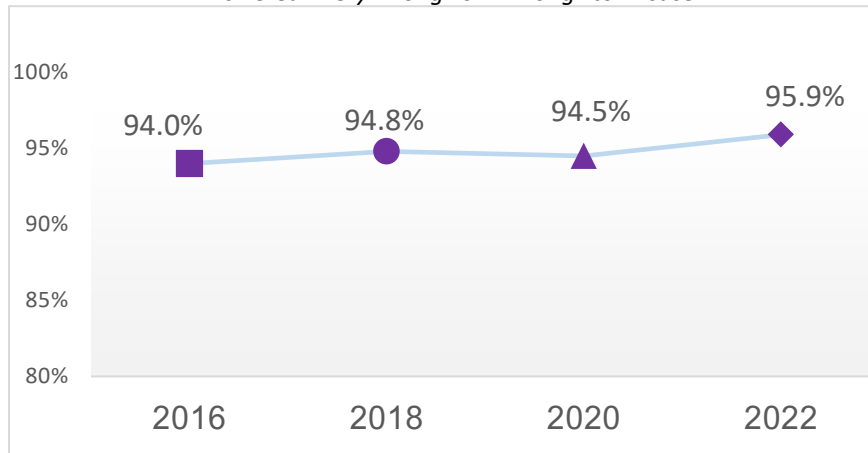
In 2022, the percentage of participants who believe there is "No risk at all" or "Slight risk" to using prescription drugs that are not prescribed to them dropped to 10.8% from 14.2% in 2020.

**Perceived Risk of Over-The-Counter Drugs**  
*Answered "No risk at all" or "Slight risk" to misuse*

There is no apparent trend to the percentage of those who believe it is no or slight risk to misuse over-the-counter medication. In 2022, the percentage was lower than in 2020, but it was similar to 2018's percentage.



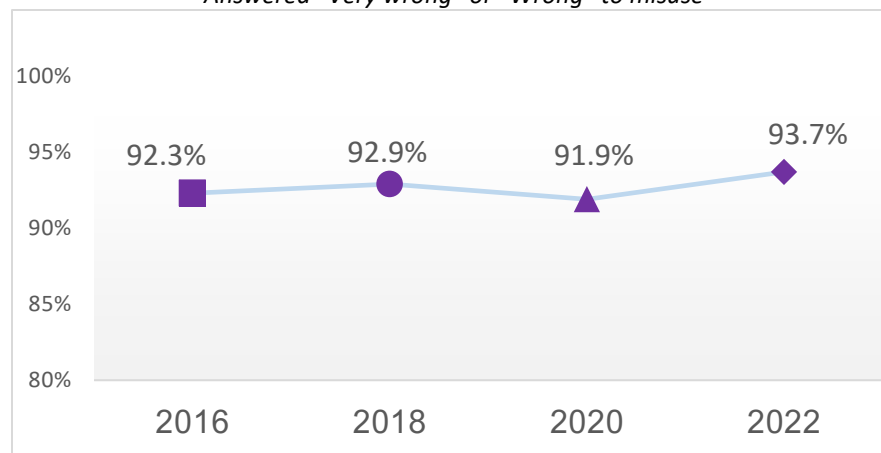
**Perceived Wrongness of Prescription Drug Misuse**  
*Answered "Very wrong" or "Wrong" to misuse*



In 2022, the percentage of youth who believe it is wrong to use prescription medication not prescribed to them rose to its highest since 2016.

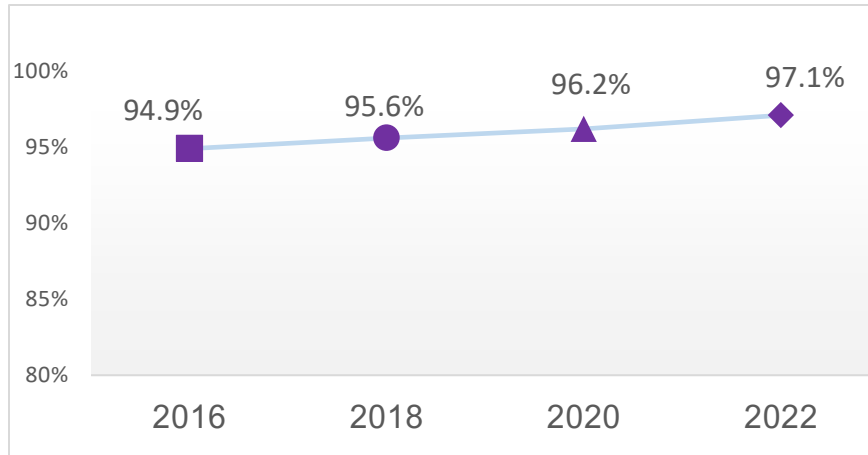
**Perceived Wrongness of Over-The-Counter Drug Misuse**  
*Answered "Very wrong" or "Wrong" to misuse*

In 2022, the percentage of youth who believe it is wrong to use over-the-counter drugs to get high rose to 93.7%, the largest percentage since 2016.



### Perceived Parental Disapproval of Prescription Drug Misuse

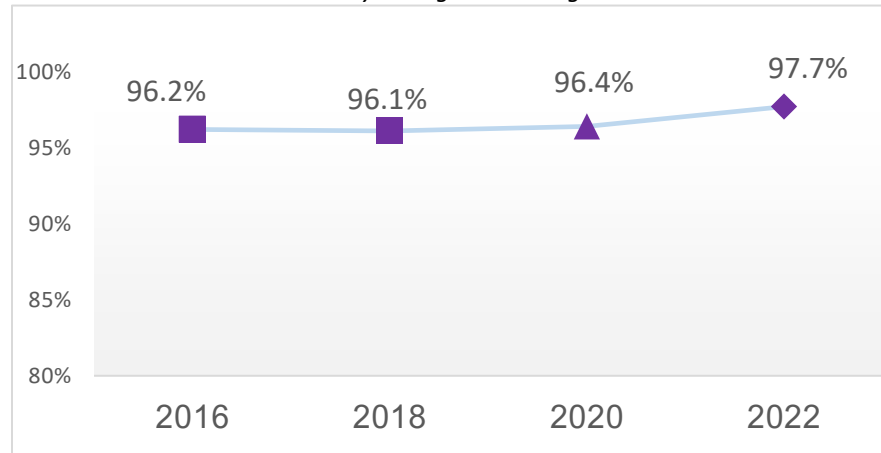
Answered "Very wrong" or "Wrong" to misuse



Since 2016, the percentage of youth who believe their parents would find it wrong if they use prescription drugs not prescribed to them has been increasing.

### Perceived Parental Disapproval of Over-The-Counter Drug Misuse

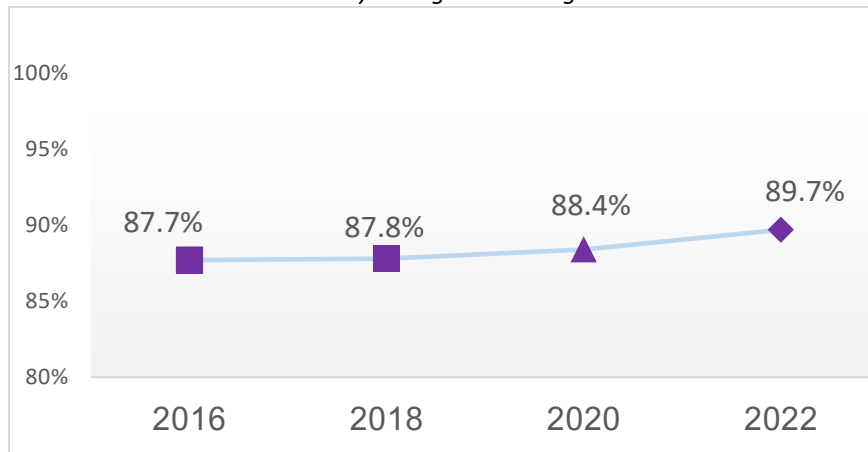
Answered "Very wrong" or "Wrong" to misuse



In 2022, the percentage of youth who believe their parents would find it wrong for them to use over-the-counter medication to get high rose to 97.7%, higher than all previous years since 2016.

### Perceived Peer Disapproval of Prescription Drug Misuse

Answered "Very wrong" or "Wrong" to misuse



The percentage of youth who believe their parents would find it wrong for them to use prescription medications not prescribed to them rose since 2018.

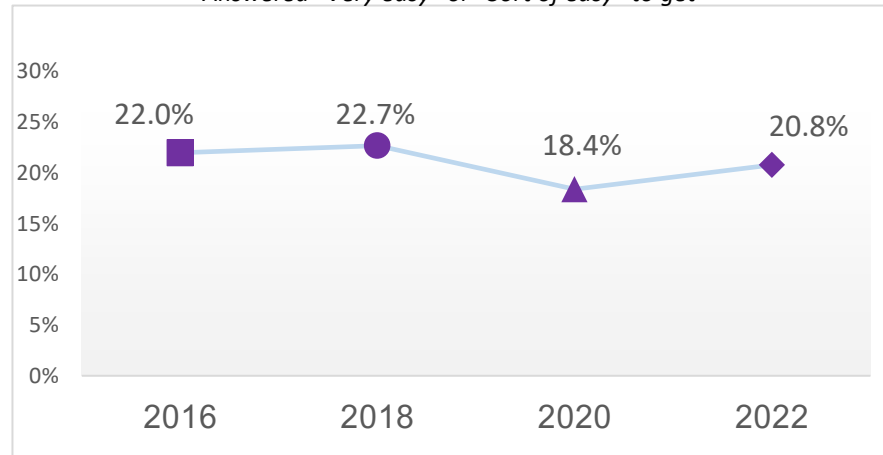
# OTHER SUBSTANCES

■▲●◆ Differences in shape indicate statistically significant differences between data points.

In 2022, the percentage of youth who find it “Very easy” or “Sort of easy” to obtain synthetic drugs is higher than in 2020 but lower than in 2016.

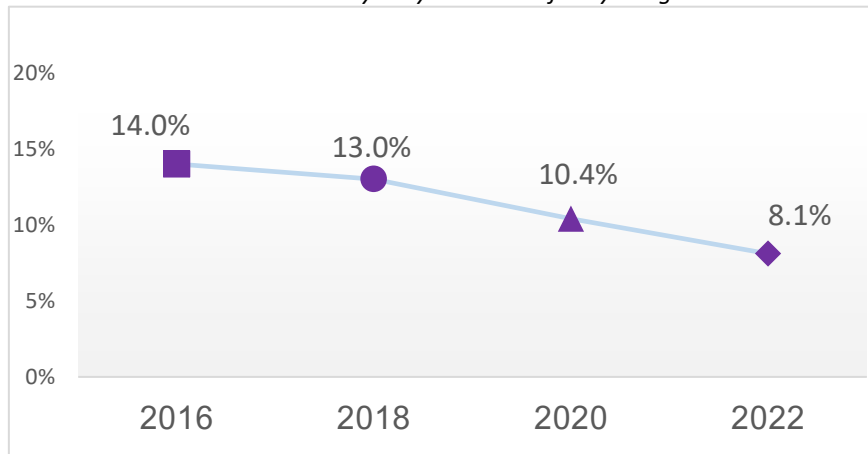
## Perceived Availability of Synthetic Drugs

Answered “Very easy” or “Sort of easy” to get



## Perceived Availability of Other Illicit Drugs

Answered “Very easy” or “Sort of easy” to get

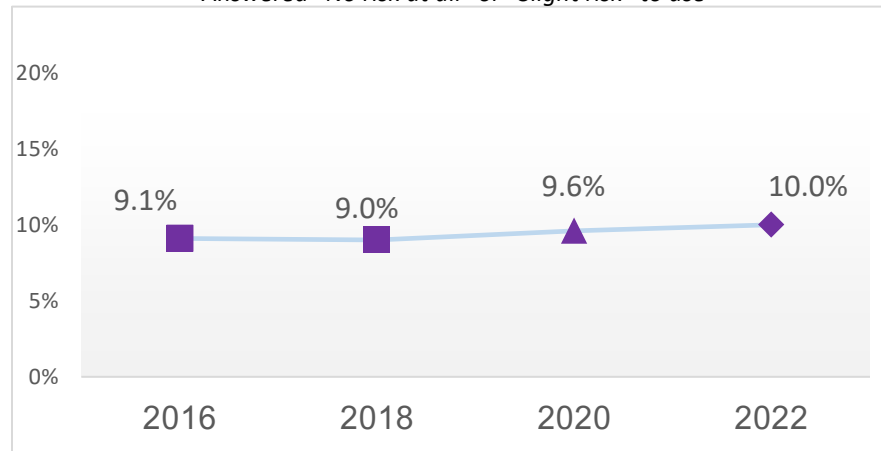


The percentage of youth who believe it is easy to obtain other illicit drugs has been declining since 2016.

The percentage of students who believe that there is “No risk at all” or “Slight risk” to using other illicit substances rose over time since 2018.

## Perceived Risk of Other Illicit Drugs

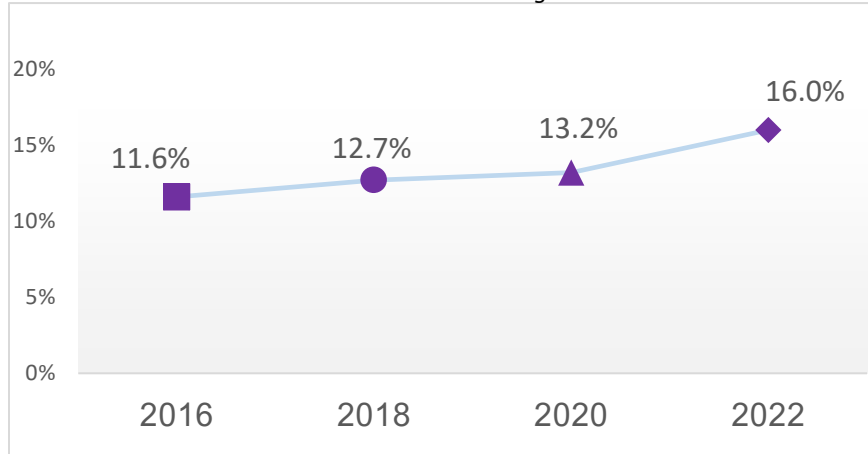
Answered “No risk at all” or “Slight risk” to use





### Perceived Risk of Synthetic Drugs

Answered "No risk at all" or "Slight risk" to use

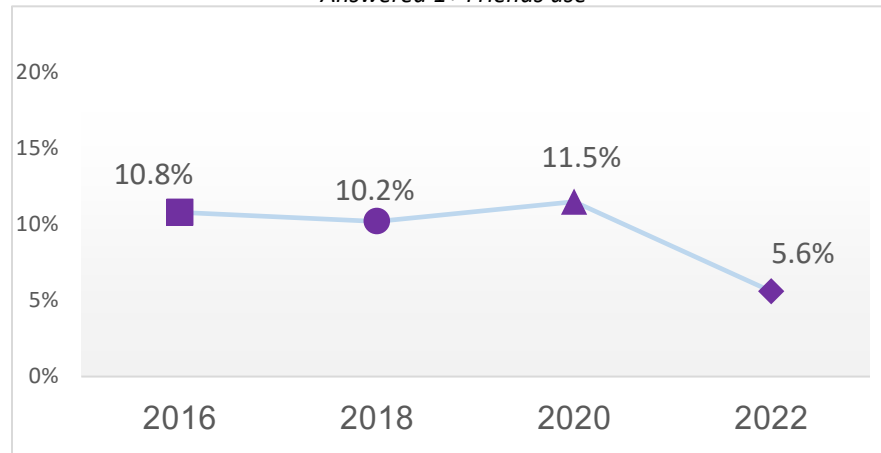


The percentage of youth who believe using synthetic drugs presents "No risk at all" or "Slight risk" has been increasing since 2016.

In 2022, there was a much lower percentage of students reported having friends who used other illicit substances in the last 12 months than in 2020. No apparent trend has emerged over the past four survey periods.

### Friend Past Year Other Illicit Substance Use

Answered 1+ Friends use

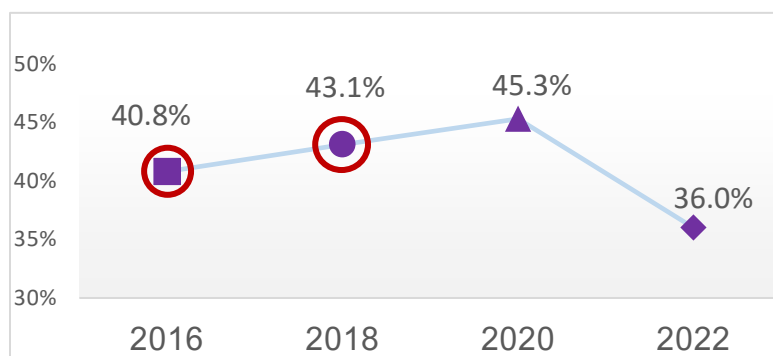


## APPENDIX: INTERPRETING THE GRAPHS

Each graph has a series of four points. Each point represents the percentage of participants who selected the indicated answer in the title of the graph.

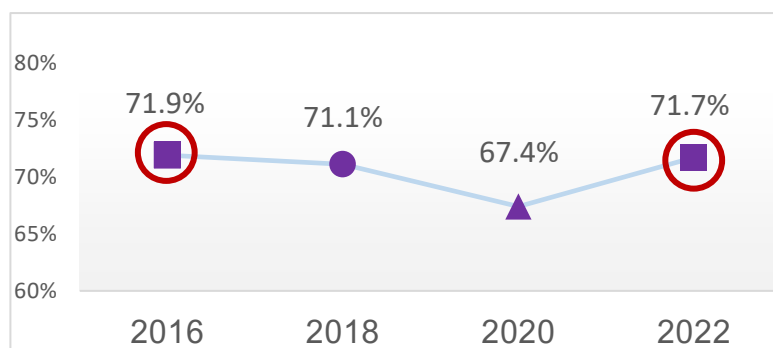
Each risk and protective factor was statistically tested against the year variable to determine if at least one of the points statistically differ from the others. All protective and risk factors included in this document have been found to have at least one reporting period statistically different from other reporting periods with 99.9% certainty ( $p < 0.001$ ), meaning that there is a 1 in 1000 chance these differences occurred due to random chance.

To determine which reporting period is statistically different from the other, each year was compared against each other using the Bonferroni Method ( $p < 0.05$ ). For example, 2020 was tested against each 2016, 2018, and 2022 individually. If any reporting period statistically differs from another, the shapes of their points in the graph should differ. If there is insufficient evidence to prove the reporting periods are statistically different, the shape of the point will match the point against which it was tested.



In the above example, 2016's point is a square and 2018's point is a circle. Because they have differing shapes, the percentages in 2016 and 2018 are statistically different. This means that the reader can be 95% confident that 2016 and 2018's percentages differ due to more than random chance.

In the example below, the years 2016 and 2022 both have squares points. This means that there is insufficient evidence to claim that 2016 and 2022's percentages differ by random chance.



For any additional questions about how to interpret the data, please email Ruth Peabody with the Missouri Institute of Mental Health at [rrpq48@umsystem.edu](mailto:rrpq48@umsystem.edu).